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Work-life balance, psychological empowerment, and work engagement: Insights from the job demands-resources model

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ABSTRACT

Drawing on the Job Demands–Resources (JD–R) model, this study examines the effect of work–life balance (WLB) on employee work engagement (WE), with psychological empowerment (PE) as a mediating variable. A quantitative cross-sectional design was used, and data were collected from 121 full-time employees working in public hospitals in East Java, Indonesia. The measurement and structural models were analyzed using partial least squares structural equation modeling (PLS-SEM). The results indicate that WLB has a significant positive effect on both PE and WE. In addition, PE has a strong direct effect on WE and significantly mediates the relationship between WLB and WE. These findings suggest that maintaining a balance between work and non-work demands can improve employees' psychological conditions and support higher levels of vigor, dedication, and absorption at work. This study contributes to the JD–R literature by showing how job resources and personal resources interact to influence work engagement in demanding clinical settings.

1. Introduction

Work engagement (WE) has become a central focus in healthcare management research because of its important role in ensuring high-quality patient care, organizational performance, and clinician well-being. In hospital environments where workloads are intense and emotional demands are constant, the ability of healthcare professionals to remain energized, dedicated, and fully absorbed in their work is essential (Jung et al., 2023). WE is linked to better patient outcomes, fewer medical errors, stronger teamwork, and higher levels of professional commitment (Wei et al., 2023). In the post-pandemic era, characterized by staffing shortages, burnout risks, and increasing patient complexity, understanding the factors that enhance engagement among healthcare workers has become more important than ever.

One of the most pressing challenges in hospital settings today is the difficulty employees face in achieving work-life balance (WLB). Hospitals operate around the clock, requiring irregular schedules, long shifts, and rapid response to emergent situations. These demands intensified during the COVID-19 crisis and have continued as hospitals struggle with workforce shortages and rising workloads. Many clinicians report difficulty disengaging from work due to the emotional weight of patient care, the constant risk of unexpected emergencies, and the increasing reliance on digital communication. Poor WLB has been linked to exhaustion, compassion fatigue, and disengagement, all which compromise both employee well-being and patient safety. Conversely, when healthcare professionals experience balance between their work and personal lives, they exhibit better psychological health, improved morale, and higher levels of engagement (Widayana et al., 2025). WLB thus functions as a vital resource supporting sustained performance in high-pressure clinical environments.

Psychological empowerment (PE) is another essential factor that shapes engagement among healthcare professionals. Hospital work requires rapid decision-making, adaptation to complex clinical situations, and autonomous judgment. In an environment where patient conditions can change within minutes, employees must feel competent, confident, and empowered to act. PE, defined by

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meaning, competence, self-determination, and impact, is especially important in healthcare because employees often face unpredictable demands and must rely on both skill and intuition (Al-Obiedat et al., 2024; Hashemi et al., 2025). Empowered clinicians see their work as significant, believe they have the capability to deliver high-quality care, feel they have autonomy in clinical decisions, and trust that their actions meaningfully influence patient outcomes. This sense of empowerment strengthens resilience, promotes proactive behavior, and supports high levels of WE even in demanding hospital settings (Llorente-Alonso et al., 2024). The Job Demands–Resources (JD–R) model provides a useful theoretical perspective for understanding how WLB and PE contribute to engagement in hospitals. According to this model, WE develops when employees have sufficient resources to manage job demands (Bakker et al., 2023; Udin et al., 2022). In hospital environments, job demands are exceptionally high because of emotional strain, physical fatigue, time pressure, complex patient needs, and administrative responsibilities (Herachwati et al., 2024). When these demands are not supported by adequate resources, the risk of burnout and disengagement increases significantly (Galanakis and Tsitouri, 2022). Job resources such as supportive scheduling practices, leadership support, and WLB play a motivational role that helps employees sustain their energy and concentration. Personal resources such as empowerment further strengthen motivation by enhancing confidence, autonomy, and resilience.

WLB serves as an important job resource within the JD–R framework. In hospitals, supportive policies such as flexible shifts, fair rotation systems, access to mental health resources, and adequate staffing help clinicians manage competing demands between work and personal life (Sari and Nasution, 2025). These supports reduce strain and create psychological space for employees to recover, which is essential for maintaining high engagement in emotionally challenging environments. PE functions as a personal resource that strengthens the positive effects of WLB. When healthcare professionals feel balanced, they are better able to experience autonomy, purpose, and competence in their work, which are core dimensions of empowerment (Juyumaya, 2022). As a result, empowerment becomes a pathway through which WLB leads to greater engagement. Employees who feel both supported and empowered are more likely to demonstrate dedication, resilience, and commitment to high-quality patient care.

Although research on WLB, empowerment, and engagement is growing, studies that integrate these constructs within hospital settings remain limited. Much of the existing evidence does not fully reflect the dramatic shifts that have occurred in healthcare following the COVID-19 pandemic, including increased patient volumes, expanded infection control protocols, digital documentation burdens, and heightened community expectations (Mahfouz et al., 2023). Furthermore, there is an urgent need to examine engagement in relation to the well-being of healthcare workers, who have reported increasing levels of stress, burnout, and turnover intentions (Ashfaq et al., 2023). Hospitals depend heavily on the psychological health and sustained engagement of their employees, making it essential to understand the mechanisms that sustain engagement in these highly complex environments.

This study seeks to address these gaps by examining the influence of WLB on WE through the mediating role of PE within the JD–R model. By focusing specifically on hospital settings and incorporating the most recent organizational realities, this research provides timely insights that contribute to both theory and practice. The findings are expected to help hospital administrators, nurse managers, and healthcare policymakers design interventions that enhance employee well-being, strengthen motivational resources, and ultimately support sustainable engagement in demanding clinical environments.

2. Literature review and hypothesis development

2.1. Work-life balance

Work-life balance (WLB) has become a critical issue in hospital environments, where employees face unpredictable work hours, emotional strain, and continuous exposure to patient needs. WLB refers to the extent to which an individual can fulfill the multiple demands of work and non-work life in a manner that minimizes conflict while maximizing satisfaction and well-being in both domains (Beauregard and Henry, 2009). It is defined as the degree to which individuals can effectively manage their work and non-work roles, which is crucial for maintaining overall well-being and ensuring optimal functioning in both personal and professional spheres (Udin et al., 2023; Widayana et al., 2025). Healthcare professionals, especially nurses and clinical staff, frequently experience role conflict due to shift rotations, extended hours, and the emotional weight of patient interactions. Research shows that employees who lack balance often experience heightened stress, lower satisfaction, and decreased psychological health, which eventually undermines their motivation and performance (Widayana et al., 2025).

Recent studies highlight that WLB is not merely a personal concern but a strategic organizational resource that influences multiple aspects of hospital operations. Supportive policies such as flexible scheduling, fair shift rotations, and psychosocial support programs reduce strain and help employees recover physically and mentally after demanding shifts (Gray et al., 2024). When balance is perceived as attainable, employees report fewer burnout symptoms, higher job satisfaction, and greater emotional stability. For hospital-based workers who routinely manage complex workloads and intense emotional situations, maintaining balance becomes a

vital foundation for sustained WE. The JD–R model positions WLB as a job resource that can mitigate the negative effects of high demands in hospital settings. By reducing strain and preserving energy, WLB enhances motivational processes that foster engagement (Kohnen et al., 2026). Thus, theoretical and empirical evidence support a positive association between WLB and WE (Inggamara et al., 2022).

H1: WLB has a positive effect on WE.

2.2. Psychological empowerment

Psychological empowerment (PE) is a motivational construct reflected in four key cognitions: meaning, competence, self-determination, and impact, which together signify an individual's intrinsic motivation to feel in control of and influential over their work outcomes (Al-Obiedat et al., 2024). Meaning refers to the value and significance an individual assigns to their work, aligning tasks with personal beliefs, values, and standards. Competence denotes an individual's confidence in their ability to successfully perform work-related tasks and responsibilities. Self-determination represents the sense of autonomy and choice in how work is executed, enabling employees to direct their own actions and decisions. Impact captures the perception that one's efforts and decisions can meaningfully influence broader organizational outcomes.

These dimensions collectively describe how empowered employees feel in shaping their work environment and contributing to organizational success. In hospitals, where quick decision-making, patient-centered autonomy, and professional judgment are essential, PE plays a central role in shaping employee behavior and attitudes (Zhuang et al., 2025). Clinicians who feel empowered are more confident in their ability to deliver care, perceive their tasks as meaningful, and believe they have control over their professional decisions. Empowerment promotes intrinsic motivation, encourages proactive problem-solving, and supports innovative behavior. Research consistently shows that empowerment is linked to higher resilience, stronger work commitment, and better patient outcomes (Al-Obiedat et al., 2024).

In the context of the JD–R model, PE is considered a personal resource that enhances an individual's capacity to manage job demands (Mazzetti et al., 2023). Personal resources influence how employees evaluate their environment and mobilize coping strategies. Empowered healthcare workers are more likely to view challenges as manageable and to allocate cognitive and emotional resources toward their tasks. In turn, this fosters higher levels of engagement (Rawson et al., 2024). Empirical studies in hospital settings confirm that empowered nurses, physicians, and allied health staff demonstrate greater dedication, reduced emotional exhaustion, and higher engagement (Nagai et al., 2023).

H2: PE has a positive effect on WE.

2.3. Work-life balance and psychological empowerment

Previous literature shows that WLB not only influences engagement directly but also shapes psychological states that contribute to engagement. Employees with strong WLB experience lower stress, clearer cognitive focus, and greater emotional availability, all of which strengthen their ability to feel empowered (Al-Obiedat et al., 2024). In hospital settings, where emotional demands and physical fatigue are common, insufficient balance reduces employees' sense of autonomy, competence, and overall control over their work. When work demands consistently interfere with personal life, employees often feel overwhelmed, exhausted, and less confident in their ability to make independent decisions. Conversely, when healthcare workers experience adequate balance, they maintain the psychological energy needed for high-quality clinical decision-making and interpersonal interactions (Sari and Nasution, 2025). Balance facilitates reflection, recovery, and renewal, which in turn strengthens the core dimensions of empowerment: meaning (renewed sense of purpose), competence (restored confidence), self-determination (greater autonomy), and impact (perceived influence on patient outcomes).

Empirical research suggests that WLB contributes to positive psychological states, including empowerment, which ultimately enhances performance and satisfaction. Within hospitals, employees who feel they can manage both personal and professional responsibilities are more likely to internalize a sense of control and influence (Sari and Nasution, 2025). Thus, based on the JD–R model and existing empirical evidence, WLB is expected to exert a positive influence on PE.

H3: WLB has a positive effect on PE.

2.4. Psychological empowerment as a mediator

The JD–R model emphasizes that personal resources play a mediating role in the motivational process between job resources and employee outcomes (Bakker et al., 2023). In this study, WLB serves as a job resource, and PE serves as the personal resource that translates balance into engagement. When employees experience sufficient balance, they recover emotionally and physically, which enhances their ability to internalize empowerment. This heightened empowerment then leads to stronger engagement. In contrast, when balance is disrupted, the resulting strain reduces psychological energy and undermines the cognitive conditions necessary for empowerment, which then weakens engagement (Sari and Nasution, 2025).

In hospital settings, PE is especially critical because employees must frequently act autonomously, respond to patient needs with

discretion, and make impactful decisions under pressure. Empowered clinicians are more motivated, more resilient, and more committed. Therefore, empowerment logically serves as a mechanism through which WLB influences engagement. Empirical studies across clinical environments support this mediating process, showing that empowerment strengthens the positive effects of supportive organizational resources on engagement, commitment, and performance (Hashemi et al., 2025). Thus, based on theory and prior evidence, PE is proposed as a mediator in the relationship between WLB and WE.

H4: PE mediates the relationship between WLB and WE.

3. Research methods

This study employed a quantitative, cross-sectional survey design to investigate the relationships among WLB, PE, and WE within the framework of the JD–R model. A cross-sectional approach was selected because it enables the systematic assessment of employees' perceptions and psychological states at a single point in time, providing an efficient means to analyze the proposed theoretical pathways among the study variables.

The study was conducted in public sector hospitals located in East Java, Indonesia. The target population consisted of full-time healthcare employees, including nurses, physicians, midwives, medical technicians, and administrative staff, employed in government-owned hospitals. These employees were selected because they consistently encounter demanding schedules, emotional labor, and operational challenges, making them an appropriate group for exploring constructions related to WLB, PE, and WE.

A purposive sampling technique was employed based on predetermined inclusion criteria. Participants were eligible if they were full-time employees at a public sector hospital in East Java, had at least one year of work experience, and were directly involved in patient care or operational support functions. A total of 130 questionnaires were distributed in coordination with hospital unit heads, and 121 valid responses were returned, resulting in a response rate of 93 percent. This rate is considered high for organizational research and exceeds recommended thresholds for structural equation modeling. Regarding gender, most respondents were female (98 (80.99%)), while 23 (19.01%) were male. The largest age group was 21–30 years (55 respondents, 45.45%), followed by 31–40 years (43 respondents, 34.54%), 41–50 years (20 respondents, 16.53%), and over 50 years (3 respondents, 2.48%). Overall, the data indicate that most respondents fall within the productive age range.

The sample is characterized by a predominance of female respondents (approximately 80.99%), which reflects the demographic reality of the healthcare workforce in Indonesia, particularly in public hospitals where nursing and midwifery positions are largely occupied by women. Prior studies consistently report similar gender distributions in hospital-based research, suggesting that the observed imbalance is not anomalous but contextually grounded.

Validated and widely used instruments were adopted to ensure reliability and comparability with prior research. All items were scored on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Employee perceptions of WLB were measured using 4 items adapted from established scales developed by Imran et al. (2025), capturing the extent to which work demands interfere with personal life and vice versa. PE was measured using a 17-item scale. These items collectively reflect employees' intrinsic motivation and their perceived influence over work outcomes. WE was assessed using a 12-item scale. The scale incorporates vigor, dedication, and absorption, which are essential dimensions for understanding energy, involvement, and focus on work.

Data was analyzed using partial least squares structural equation modeling (PLS-SEM) through the SmartPLS software. PLS SEM was selected for its suitability in analyzing complex research models, its ability to handle smaller sample sizes, and its robustness against violations of normality assumptions (Demir and Uşak, 2025).

4. Results and discussion

The assessment of the measurement model in Table 1 shows that all constructions demonstrate strong reliability and validity. All factor loadings exceed the recommended minimum threshold of 0.70, indicating that each item represents its intended construction well. WLB items load between 0.791 and 0.910, PE items load between 0.717 and 0.820, and WE items load between 0.732 and 0.831, confirming adequate convergent validity. The reliability indicators are also robust. Cronbach's Alpha (CA) values for WLB, PE, and WE are 0.875, 0.950, and 0.941, respectively, while composite reliability (CR) values are 0.914, 0.955, and 0.949. These results reflect excellent internal consistency across the constructions. The average variance extracted (AVE) values are all above the acceptable level of 0.50, with WLB at 0.727, PE at 0.556, and WE at 0.609, further supporting convergent validity. Collinearity diagnostics reveal that all VIF (Variance Inflation Factor) values fall below the critical threshold of 5, indicating that multicollinearity is not a concern. These results confirm that the measurement model is psychometrically sound, enabling subsequent structural model analysis to be conducted with confidence.

The discriminant validity of the measurement model was assessed using both the Fornell–Larcker criterion and the Heterotrait–Monotrait ratio (HTMT), as presented in Table 2. According to the Fornell–Larcker criterion, the square roots of the

average variance extracted (AVE) are greater than most inter-construct correlations. However, a potential concern is observed between psychological empowerment and work engagement, where the square root of AVE for psychological empowerment is slightly lower than its correlation with work engagement, indicating a possible lack of discriminant validity between these two constructs. In contrast, the HTMT results provide stronger evidence for discriminant validity, as all values are below the conservative threshold of 0.85. This suggests that, despite the Fornell–Larcker limitation, the constructs can still be considered empirically distinct based on the more robust HTMT criterion.

Table 1: Measurement of reliability and validity

Constructs	Items	Factor loadings	CA	CR	AVE	VIF
Work-life balance	WLB1	0.791	0.875	0.914	0.727	1.900
	WLB2	0.856				2.157
	WLB3	0.910				3.127
	WLB4	0.849				2.395
Psychological empowerment	PE1	0.733	0.950	0.955	0.556	3.081
	PE2	0.760				3.438
	PE3	0.807				4.076
	PE4	0.728				4.631
	PE5	0.727				4.405
	PE6	0.767				2.864
	PE7	0.722				3.591
	PE8	0.820				3.058
	PE9	0.735				3.413
	PE10	0.760				2.867
	PE11	0.717				2.695
	PE12	0.739				2.372
	PE13	0.724				4.035
	PE14	0.733				2.166
	PE15	0.729				4.175
	PE16	0.729				4.018
	PE17	0.738				2.643
Work engagement	WE1	0.765	0.941	0.949	0.609	3.213
	WE2	0.767				4.854
	WE3	0.827				4.712
	WE4	0.732				3.033
	WE5	0.814				3.208
	WE6	0.808				3.479
	WE7	0.806				2.729
	WE8	0.768				3.032
	WE9	0.747				3.368
	WE10	0.831				4.281
	WE11	0.728				4.938
	WE12	0.759				4.596

Table 2: Discriminant validity

Constructs	PE	WE	WLB	Constructs	PE	WE
	Fornell–Larcker				HTMT	
PE	0.746			PE		
WE	0.776	0.780		WE	0.812	
WLB	0.630	0.725	0.853	WLB	0.660	0.781

The structural model in Table 3 demonstrates strong predictive relevance, with all hypothesized relationships showing positive and statistically significant effects. Both WLB (β = 0.391, t = 3.340, ρ = 0.001) and PE (β = 0.530, t = 4.664, ρ = 0.000) play critical roles in shaping WE. In addition, the link between WLB and PE emerges as the strongest path in the model (β = 0.630, t = 8.320, ρ = 0.000). This coefficient reflects the substantial influence of WLB in predicting employees' feelings of competence, autonomy, and psychological readiness to perform their roles. Employees who effectively manage responsibilities across work and personal domains tend to feel more confident, capable, and psychologically empowered. Furthermore, PE (β = 0.334, t = 3.748, ρ = 0.000) functions as a key explanatory mechanism connecting WLB to WE. These results deepen the understanding of how work-related and personal-life factors jointly enhance employee motivation and foster positive organizational outcomes.

Table 3: Results of the structural model

Hypothesis	Path coefficient (β)	Standard deviation	T-statistics	P-values	Decision
H1: Work-life balance → work engagement	0.391	0.117	3.340	0.001	Supported
H2: Psychological empowerment → work engagement	0.530	0.114	4.664	0.000	Supported
H3: Work-life balance → psychological empowerment	0.630	0.076	8.320	0.000	Supported
H4: Work-life balance → psychological empowerment → work engagement	0.334	0.089	3.748	0.000	Supported

The results of this study reinforce the importance of WLB and PE as essential personal resources shaping employees' WE within the JD–R model framework. First, WLB represents a fundamental personal resource that helps individuals effectively manage competing demands from work and non-work domains. When employees perceive that their organization supports a healthy integration between work responsibilities and personal life, they experience reduced strain and enhanced emotional availability. This, in turn, allows them to invest more energy and dedication into their work. Prior studies have consistently shown that WLB enhances employees' motivational states, ultimately driving higher engagement and positive work attitudes (Sari and Nasution, 2025).

The positive relationship between WLB and WE is consistent with previous studies that conceptualize WLB as a critical job resource fostering energy and dedication (Bakker and Demerouti, 2017). However, the strength of this relationship appears more pronounced in the Indonesian hospital context. One plausible explanation lies in the collectivist cultural orientation prevalent in Indonesia (Sulistiawan et al., 2022), where work and family roles are deeply intertwined rather than clearly segmented. In such contexts, WLB may generate not only individual strain but also perceived failure to meet familial and social obligations, thereby intensifying its impact on motivational outcomes such as WE.

In addition, the results demonstrate that WLB significantly improves PE, a core personal resource consisting of meaning, competence, self-determination, and impact. The JD–R model posits that resources tend to accumulate in a "gain cycle," where one resource strengthens another, leading to improved motivational outcomes (Galanakis and Tsitouri, 2022). When employees achieve a balanced work–life interface, they are more likely to feel autonomous, capable, and valued in their roles. Previous research supports this resource gain effect by showing that individuals who experience greater balance tend to report higher levels of empowerment, confidence, and intrinsic motivation (Rony et al., 2023). Furthermore, PE emerges as a key explanatory mechanism linking WLB with WE. Consistent with the JD–R model's motivational pathway, PE enhances employees' sense of purpose and intrinsic motivation, which are critical drivers of engagement. Empowered employees perceive their work as meaningful and feel confident in their ability to influence outcomes, which increases their vigor, dedication, and absorption. Several empirical studies have validated the mediating role of PE in relationships involving job resources and positive work outcomes, demonstrating its ability to translate supportive conditions into heightened engagement (Hashemi et al., 2025). Therefore, as employees experience better WLB, they become more psychologically empowered, and this empowerment subsequently fuels higher WE. The mediating role of PE differs in nuance from findings reported in studies conducted in high autonomy healthcare systems. While empowerment consistently enhances work engagement across settings (Bakker and Demerouti, 2017), its mediating strength in this study may reflect the structural constraints of public hospitals, where hierarchical decision-making and standardized clinical protocols limit employee discretion. Under such conditions, even modest levels of empowerment, particularly perceptions of meaning and competence, may exert a disproportionately strong motivational effect. This contrasts with studies in Western hospitals, where autonomy is often institutionalized and therefore less salient, causing empowerment to function more as a hygiene factor than as a distinctive motivational resource (Seibert et al., 2011).

5. Conclusion

This study provides empirical evidence that WLB and PE are critical resources that shape healthcare employees' WE within the JD–R model. WLB was found to significantly enhance both PE and engagement, suggesting that employees who can effectively manage responsibilities across their work and personal domains are better positioned to sustain energy and dedication at work. PE also exerted a strong direct effect on engagement while mediating the relationship between WLB and engagement. These findings highlight the interconnectedness of job and personal resources in fostering resilience, motivation, and optimal performance in demanding hospital environments.

The findings of this study highlight several important implications for hospital management and policymakers. Strengthening WLB initiatives, such as improving scheduling fairness, reducing excessive overtime, and offering greater flexibility where feasible, can help employees preserve energy and reduce strain, thereby enhancing their readiness to engage. At the same time, fostering PE through supportive leadership practices, increased autonomy, and meaningful involvement in decision-making can reinforce employees' sense of competence, purpose, and influence. Hospitals should also invest in organizational resources that facilitate recovery and emotional resilience, including adequate staffing, mental health support, and collaborative team structures. By integrating WLB policies with empowerment-oriented practices, healthcare organizations can create a mutually reinforcing resource environment that enhances motivation, sustains engagement, and ultimately contributes to improved patient care and operational performance.

Despite its contributions, this study has several limitations that should be acknowledged. First, the relatively small sample size limits the statistical power of the analysis and may constrain the generalizability of the findings beyond the specific organizational and occupational context examined. Although PLS-SEM is suitable for exploratory and prediction-oriented research with smaller samples,

future studies should aim to employ larger and more diverse samples across multiple hospitals or healthcare institutions to enhance external validity. Second, the cross-sectional research design precludes definitive causal inferences among WLB, PE, and WE. While the hypothesized relationships are theoretically grounded in the JD–R model, the temporal ordering of these constructs cannot be empirically confirmed in the present study. Longitudinal research designs are therefore strongly recommended to examine how changes in WLB over time influence PE and subsequent WE. For example, a three-wave-panel design could measure WLB at Time 1, PE at Time 2, and WE at Time 3, allowing for stronger causal inference and mediation testing. In addition, future research may benefit from mixed-methods approaches to capture deeper contextual insights that cannot be fully addressed through survey data alone. Qualitative methods, such as in-depth interviews or focus group discussions with healthcare professionals, could explore how employees interpret empowerment experiences and manage work-life boundaries in demanding healthcare environments. Integrating qualitative findings with longitudinal quantitative data would provide a more nuanced understanding of the dynamic processes proposed by the JD–R framework. Finally, future studies could incorporate multi-source data (e.g., supervisor ratings of engagement or objective workload indicators) to further reduce common method concerns and enrich the explanatory power of the model. Such methodological extensions would strengthen causal claims and contribute to a more comprehensive understanding of how job resources translate into sustainable WE.

List of abbreviations

AVE	Average variance extracted
CA	Cronbach's alpha
CR	Composite reliability
HTMT	Heterotrait–monotrait ratio
JD–R	Job demands–resources
PE	Psychological empowerment
PLS-SEM	Partial least squares structural equation modeling
VIF	Variance inflation factor
WE	Work engagement
WLB	Work–life balance

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Compliance with ethical standards

Ethical considerations

This study was conducted in accordance with established ethical standards for research involving human participants. Prior to data collection, the research protocol was reviewed and approved by the relevant institutional ethics committee (401/A.I-II/FEB/VII/2025). Participation was entirely voluntary, and informed consent was obtained from all respondents before they completed the questionnaire. Participants were assured of the confidentiality and anonymity of their responses, and no personally identifiable information was collected. The data were used solely for academic research purposes, and all procedures complied with applicable ethical guidelines.

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

References

Al-Obiedat AM, Allari RS, and Gharaibeh MK (2024). The psychological empowerment and quality of work life among Jordanian primary care nurses and midwives. Frontiers in Medicine, 11: 1476225. https://doi.org/10.3389/fmed.2024.1476225 **PMid:39564512 PMCid:PMC11573508**

Ashfaq F, Abid G, Ilyas S, and Binte Mansoor K (2023). Perceived organisational support and work engagement among health sector workers during the COVID-19 pandemic: A multicentre, time-lagged, cross-sectional study among clinical hospital staff in Pakistan. BMJ Open, 13(6): e065678. https://doi.org/10.1136/bmjopen-2022-065678 **PMid:37308274 PMCid:PMC10276954**

Bakker AB and Demerouti E (2017). Job demands–resources theory: Taking stock and looking forward. Journal of Occupational Health Psychology, 22(3): 273-285. https://doi.org/10.1037/ocp0000056 **PMid:27732008**

Bakker AB, Demerouti E, and Sanz-Vergel A (2023). Job demands–resources theory: Ten years later. Annual Review of Organizational Psychology and Organizational Behavior, 10(1): 25-53. https://doi.org/10.1146/annurev-orgpsych-120920-053933 **PMCid:PMC11466399**

Beauregard TA and Henry LC (2009). Making the link between work-life balance practices and organizational performance. Human Resource Management Review, 19(1): 9-22. https://doi.org/10.1016/j.hrmr.2008.09.001

Demir S and Uşak M (2025). Analyzing the implementation of PLS-SEM in educational technology research: A review of the past 10 years. SAGE Open, 15(2). https://doi.org/10.1177/21582440251345950

Galanakis MD and Tsitouri E (2022). Positive psychology in the working environment. Job demands-resources theory, work engagement and burnout: A systematic literature review. Frontiers in Psychology, 13: 1022102. https://doi.org/10.3389/fpsyg.2022.1022102 **PMid:36204770 PMCid:PMC9531691**

Gray S, Morris MR, and Bowie D (2024). The power of self-scheduling: Frontline nurses' insights and perspectives to achieve staffing flexibility. Nurse Leader, 22(4): 438-444. https://doi.org/10.1016/j.mnl.2023.11.012

Hashemi R, Sadeghi A, Roshanaei G, and Purfarzad Z (2025). The relationship between the leader empowering behaviors and work engagement: The role of psychological empowerment as a mediating variable. BMC Nursing, 24: 652. https://doi.org/10.1186/s12912-025-03321-4 **PMid:40481502 PMCid:PMC12143080**

Herachwati N, Haqq ZN, Choirunnisa Z, Pramesti GA, and Rahmandika HP (2024). Revealing Indonesian healthcare workers' burnout, work engagement, and job satisfaction during the COVID-19 pandemic: The lens of the job demands-resources model. Cogent Business & Management, 11(1): 2371328. https://doi.org/10.1080/23311975.2024.2371328

Imran MK, Sarwar A, Fatima T, and Shabeer S (2025). Am I depleting from work or life? A nexus among work–life balance, self-efficacy, emotional exhaustion and performance. Asia-Pacific Journal of Business Administration, 17(4): 1165-1184. https://doi.org/10.1108/APJBA-05-2024-0253

Inggamara A, Pierewan AC, and Ayriza Y (2022). Work–life balance and social support: The influence on work engagement in the sixth European working conditions survey. Journal of Employment Counseling, 59(1): 17-26. https://doi.org/10.1002/joec.12175

Jung FU, Bodendieck E, Bleckwenn M, Hussenoeder FS, Luppa M, and Riedel-Heller SG (2023). Burnout, work engagement and work hours–how physicians' decision to work less is associated with work-related factors. BMC Health Services Research, 23: 157. https://doi.org/10.1186/s12913-023-09161-9 **PMid:36793035 PMCid:PMC9930013**

Juyumaya J (2022). How psychological empowerment impacts task performance: The mediation role of work engagement and moderating role of age. Frontiers in Psychology, 13: 889936. https://doi.org/10.3389/fpsyg.2022.889936 **PMid:36186278 PMCid:PMC9523883**

Kohnen D, De Witte H, Schaufeli WB, Dello S, Bruyneel L, Aiken LH, and Sermeus W (2026). Key drivers of nurse burnout and work engagement in Europe: A cross-sectional dominance analysis. International Journal of Nursing Studies, 173: 105251. https://doi.org/10.1016/j.ijnurstu.2025.105251 **PMid:41175851**

Llorente-Alonso M, García-Ael C, and Topa G (2024). A meta-analysis of psychological empowerment: Antecedents, organizational outcomes, and moderating variables. Current Psychology, 43: 1759-1784. https://doi.org/10.1007/s12144-023-04369-8

Mahfouz MS, Osman SA, Mohamed BA, Saeed EAM, Ismaeil MIH, Elkhider RAA, and Orsud MA (2023). Healthcare professionals' experiences during the COVID-19 pandemic in Sudan: A cross-sectional survey assessing quality of life, mental health, and work-life-balance. International Journal of Public Health, 68: 1605991. https://doi.org/10.3389/ijph.2023.1605991 **PMid:37711157 PMCid:PMC10497743**

Mazzetti G, Robledo E, Vignoli M, Topa G, Guglielmi D, and Schaufeli WB (2023). Work engagement: A meta-analysis using the job demands-resources model. Psychological Reports, 126(3): 1069-1107. https://doi.org/10.1177/00332941211051988 **PMid:34886729**

Nagai S, Ogata Y, Yamamoto T, Fedyk M, and Bell JF (2023). A longitudinal study of the impact of personal and professional resources on nurses' work engagement: A comparison of early-career and mid-later-career nurses. Healthcare, 11(1): 76. https://doi.org/10.3390/healthcare11010076 **PMid:36611536 PMCid:PMC9818952**

Rawson H, Davies S, Ockerby C, Pipson R, Peters R, Manias E, and Redley B (2024). Work engagement, psychological empowerment and relational coordination in long-term care: A mixed-method examination of nurses' perceptions and experiences. Nursing Inquiry, 31(2): e12598. https://doi.org/10.1111/nin.12598 **PMid:37656636**

Rony MKK, Numan SM, and Alamgir HM (2023). The association between work-life imbalance, employees' unhappiness, work's impact on family, and family impacts on work among nurses: A cross-sectional study. Informatics in Medicine Unlocked, 38: 101226. https://doi.org/10.1016/j.imu.2023.101226

Sari QM and Nasution N (2025). The effect of work life balance and job crafting on employee work engagement at Rejang Lebong Regional General Hospital. Jambura Economic Education Journal, 7(4): 1343-1358. https://doi.org/10.37479/jeej.v7i4.32673

Seibert SE, Wang G, and Courtright SH (2011). Antecedents and consequences of psychological and team empowerment in organizations: A meta-analytic review. Journal of Applied Psychology, 96(5): 981-1003. https://doi.org/10.1037/a0022676 **PMid:21443317**

Sulistiawan J, Moslehpour M, and Lin PK (2022). Linking passion for work and emotional exhaustion in Indonesian firefighters: The role of work–family conflict. International Journal of Environmental Research and Public Health, 19(22): 14629. https://doi.org/10.3390/ijerph192214629 **PMid:36429347 PMCid:PMC9690703**

Udin U, Dananjoyo R, and Isalman I (2022). The effect of transactional leadership on innovative work behavior: Testing the role of knowledge sharing and work engagement as mediation variables. International Journal of Sustainable Development and Planning, 17(3): 727-736. https://doi.org/10.18280/ijsdp.170303

Udin U, Sukirno RLS, and Dananjoyo R (2023). The impact of work-life balance on employee performance: Examining the mediating-moderating role of job satisfaction and affective commitment. FWU Journal of Social Sciences, 17(3): 74-85. https://doi.org/10.51709/19951272/Fall2023/6

Wei H, Horsley L, Cao Y, Haddad LM, Hall KC, Robinson R, Powers M, and Anderson DG (2023). The associations among nurse work engagement, job satisfaction, quality of care, and intent to leave: A national survey in the United States. International Journal of Nursing Sciences, 10(4): 476-484. https://doi.org/10.1016/j.ijnss.2023.09.010 **PMid:38020845 PMCid:PMC10667320**

Widayana IGAA, Agustina HR, and Mediawati AS (2025). Factors associated with work life balance among nurses in hospitals: A socio-ecological scoping review. Journal of Multidisciplinary Healthcare, 18: 4511-4521. https://doi.org/10.2147/JMDH.S534729 **PMid:40765732 PMCid:PMC12323871**

Zhuang J, Fan X, Yang N, Xiong Z, Chen Z, Pu J, Xie Z, Wang H, He B, Shen T, and Huang H (2025). The effect of psychological empowerment on clinical nurses' thriving at work: The mediating role of voice behavior. BMC Nursing, 24: 1018. https://doi.org/10.1186/s12912-025-03403-3 **PMid:40764956 PMCid:PMC12323100**